

Appl. No. 10/814,408
Atty. Docket No. 2002B139/2
Amdmt. dated January 27, 2006
Reply to Office Action of September 29, 2005

Amendments to the Claims

This listing of claims will replace all prior versions and listing of claims in this application.

Listing of Claims:

1-23. (Canceled)

24. (Currently amended) An oxygenates to olefins fluidized bed reactor apparatus for converting an oxygenate feed to olefins in a riser reactor which comprises:

(a) an oxygenate feed line communicating with a riser reactor feed inlet to said riser reactor, said riser reactor further comprising a riser reactor outlet for riser reactor effluent containing solid catalyst particles and olefins-containing vapor;

(b) a preheater through which said oxygenate feed line passes for at least partially vaporizing said feed by heat exchange with a fluid heating medium flowing through said preheater;

(c) a disengaging vessel for receiving said riser reactor effluent and separating at least some of said solid catalyst particles from said effluent, said disengaging vessel further comprising a disengaging vessel outlet at an upper portion of said vessel for removing said olefins-containing vapor;

(d) a catalyst circulation line running downward from a lower portion of said disengaging vessel to a lower portion of said riser reactor;

(e) a regenerator comprising a lower inlet for introducing a regeneration medium, an upper outlet for regenerator flue gas, said regenerator further comprising a first catalyst transport line running downwardly from a lower portion of said disengaging vessel to a regenerator catalyst inlet on the regenerator, and a second catalyst transport line extending downwardly from a regenerated catalyst outlet on the regenerator and intersecting with a lift gas riser, said lift gas riser having an upper outlet communicating with at said disengaging vessel and a lower lift gas inlet; and

(f) a regenerator catalyst circulation control valve controlling the passage of catalyst from said regenerated catalyst outlet to said lift gas riser, said regenerator catalyst circulation control valve being manipulated as a function of riser reactor temperature.

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25-29. (Canceled)

30. (Currently amended) The apparatus of claim 24, wherein said riser reactor temperature is measured by comprises a temperature sensor at a point ranging from 30% to 40% of said riser reactor length, measured from said feed inlet of the riser reactor.

31. (Currently amended) The apparatus of claim 24, wherein said function of riser reactor temperature is a reactor mid temperature taken by comprises a temperature sensor at a single location between about 20% to about 80% of the axial length of the reactor.

32. (Currently amended) The apparatus of claim 24, wherein said function of riser reactor temperature is a rate of temperature rise measured by comprises a temperature sensor along a portion of the reactor.